COMMONWEALTH OF VIRGINIA
Department of General Services
Division of Consolidated Laboratory Services

TUNING FORK CALIBRATION LABORATORY
CERTIFICATION/RECERTIFICATION
ON-SITE INSPECTION CHECKLIST

Laboratory ID	Laboratory Name		
Street			
City, Zip Code			
Contact Person			
Contact E-Mail			
Telephone No.		Fax No.	
Inspection Date	Assessor Name		

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I. EQUIPMENT

A. Verify equipment and signal source

1. Receiver
   a. Manufacturer _____
   b. Model _____
   c. Serial Number _____
2. Frequency Counter
   a. Manufacturer _____
   b. Model _____
   c. Serial Number _____
   d. Calibration/Maintenance Records _____
3. Thermometer
   a. Manufacturer _____
   b. Model _____
   c. Serial Number _____
   d. Calibration/Maintenance Records _____
4. Microphone
   a. Manufacturer _____
   b. Model _____
5. Reference Standard Tuning Forks
   a. K-Band
      i. Manufacturer _____
      ii. Speed _____
      iii. Serial Numbers _____
      iv. Calibration/Certification Records _____
   b. Ka-Band
      i. Manufacturer _____
      ii. Speed _____
      iii. Serial Numbers _____
      iv. Calibration/Certification Records _____

B. ☐ Equipment observed on-site corresponds to equipment listed in the Quality Manual

Deviations/Comments/Recommendations

II. PREVENTIVE MAINTENANCE

A. ☐ Maintenance logs showing dates and types of service performed are maintained for each instrument

B. ☐ Instrument calibrations are included in the maintenance logs

III. PERSONNEL

A. Verify authorized certification personnel:

Deviations/Comments/Recommendations

IV. SAMPLE HANDLING

A. Log-in procedure:
☐ Recorded in ink, or
☐ Secure computer log

B. Sample Storage

C. Sample Tracking

Deviations/Comments/Recommendations

V. ELEMENTS OF THE QUALITY MANUAL

A. ☐ List of all test equipment by manufacturer, model number, and serial number

B. ☐ Statement identifying the nationally recognized calibration tone source by name, address and telephone number

C. ☐ Specifications of the accuracy, range and reproducibility of test equipment

D. Recordkeeping policies and practices
   1. Record retention policy
      a. ☐ Maintenance logs retained for a minimum of three years
      b. ☐ Calibration records retained for a minimum of three years
      c. ☐ Sample observation records retained for a minimum of three years
   2. Documentation practices
      a. ☐ All handwritten data shall be recorded in ink
      b. ☐ Changes to laboratory records shall be made with a single strike-out line leaving the original entry visible
      c. ☐ Changes shall be documented with date and initials of person making the correction
   3. ☐ Procedures for ensuring the security of electronic records

E. Rejection policy
   1. ☐ Circumstance and conditions under which a tuning fork would be rejected prior to testing
   2. ☐ Labeling and disposition of tuning forks rejected prior to testing

F. ☐ Standard Operating Procedure (SOP) including
   1. Detailed procedure used to
      a. ☐ standardize equipment and determine fitness for use
      b. ☐ calibrate tuning forks
      c. ☐ document, review and report data
   2. ☐ Calculations and examples
   3. ☐ Description of actions to be taken if a tuning fork fails certification testing
   4. ☐ References

G. ☐ Equipment calibration and maintenance requirements and documentation of calibration

H. Training records including
   1. ☐ Procedure for training tuning fork calibration technicians
   2. ☐ Documentation of training
   3. ☐ Demonstration of capability

I. ☐ List of personnel performing tuning fork calibration, training and experience.

J. ☐ Reference copy of the certificate provided to customers upon completion of the tuning fork certification procedure

K. ☐ Documentation of annual review of the Quality Manual

L. ☐ Historical documentation of changes to the Quality Manual

Deviations/Comments/Recommendations:

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VI. CERTIFICATION RECORDS AUDIT

A. Data audit

1. ☐ Raw data were recorded in ink
2. ☐ Reference tuning forks were observed at beginning and end of each certification batch
3. ☐ Each sample tuning fork was identified by serial number or other unique identifier
4. Temperature was recorded
   a. ☐ prior to testing the sample set and
   b. ☐ at the end of the sample set
   c. ☐ temperature of the test environment was within the range of 20˚ C to 30˚ C.
5. ☐ A minimum of 2 frequency observations of each sample fork were recorded and averaged for calculating the MPH
6. ☐ Calculations were performed accurately
7. Each page of documentation included
   a. ☐ the date of testing and
   b. ☐ the signature or initials of the technician
8. ☐Corrections documented with date and initials
9. ☐ Data review documented with date and initials or signature of reviewer

Deviations/Comments/Recommendations:

B. CERTIFICATE AUDIT

1. Each certificate included the following information
   a. ☐ The serial number of each tuning fork
   b. ☐ The date certification testing was performed
   c. ☐ The frequency at which the tuning fork was found to oscillate
   d. ☐ The corresponding calculated MPH
   e. ☐ The radar frequency band within which the tuning fork is to be used
   f. ☐ The signature of the analyst who performed the testing
   g. ☐ The date, seal and signature of notarization
2. ☐ Completed certificate was reviewed for transcription errors; review was documented with date and signature or initials of reviewer

Deviations/Comments/Recommendations:

C. *What, if any, additional information was included at the request of the court system(s) of the jurisdictions in which the laboratory's clients are located?*

D. *What, if any, information in IV. C. 1 was omitted from the certificate at the request of the court system(s) of the jurisdictions in which the laboratory's clients are located?*

VII. OBSERVATION OF CALIBRATION OF STANDARD TUNING FORKS ON-SITE

A. ☐ Reference standards observed before and after sample observation set

B. ☐ Temperature recorded before and after each sample set observation

C. ☐ Temperature of the test environment was within the range of 20° C to 30° C

D. ☐ Raw data recorded in ink or entered directly into secure computer program

E. ☐ Data reported as the average of a minimum of 2 observations of each tuning fork

F. ☐ Correct calculation factors are applied to the averages of the observed frequency counts

G. ☐ Technician's calibration data are accurate

H. ☐ Calibration procedure performed as written

Observed deviations from procedure: